

# REMOVAL

OF A

## CANCEROUS TUMOUR FROM BELOW THE TONGUE,

WITH SOME

## REMARKS ON THE OPERATIVE SURGERY OF THE TONGUE.

By JOHN PAUL, M.D., F.R.C.S.E.,

SURGEON TO GRAY'S HOSPITAL, ELGIN.

---

[REPRINTED FROM THE EDINBURGH MEDICAL JOURNAL, SEPTEMBER 1858.]

---

PETER BOWIE, æt. 57, was admitted into Gray's Hospital June 8, 1858, with a tumour under his tongue, extending from the lower jaw to the frænum linguæ, necessarily involving the sublingual gland, and pressing the tongue upwards. It had the cauliflower aspect very distinctly, and, on being pressed or handled, oozed out a little blood. To the feel it was solid, and its base was pretty deep. It was immoveably adherent to the jaw, or at least to the alveoli, for nearly two inches. It was moveable in its other attachments. The front teeth were mostly out, those that remained being quite loose, from softening and absorption of their sockets. There was no enlargement of the sub-maxillary glands, nor infiltration of any of the surrounding tissues. The growth was evidently of a malignant character. The patient's general health was tolerably good; no doubt he was of intemperate habits, but in this respect he was improved of late. It was only ten weeks since he first began to feel some fulness in the part, so that the disease had been rapid in its progress. About this time he had severe pain in one of his front teeth, which was extracted. A slight lancinating pain, however, still remained—felt especially when speaking or swallowing. The gum became swollen and livid; and this condition of it not only continued, but increased.

Viewing the case, then, in all its bearings, the only procedure which held out any prospect of cure, or even of arresting in any

degree the progress of the disease, was removal ; although then no very satisfactory result could with much certainty be relied on, such being the liability of malignant disease to return. But to avert consequences so horrible as the progress of such a disease in that locality would inevitably be, and ultimately so certainly fatal, I resolved on giving the patient the only available chance of escape from them. I proceeded, therefore, on the 12th of June, to remove the diseased structure in the following manner :—I made an incision from the middle of the lip down to the lower border of the chin, and here a cross one, thus forming the letter T inverted. I then dissected back the flaps close to the bone, so far as to allow as much of it to be removed as appeared to be implicated in the disease. The bone was now notched on each side a little beyond where the disease was adherent to it, and divided by the bone pliers. The tongue, by means of a double ligature passed through its point, was pulled forcibly upwards and backwards by an assistant, when, grasping and pulling down the tumour, I dissected it out from its attachments, with the divided portion of the jaw fixed to it. The fibres of the muscles, to a considerable extent, coming from the os hyoides to the tongue, were of course removed, along with no inconsiderable portion of the floor of the mouth. Six vessels of large calibre required to be tied, besides a branch of the facial divided in the cross external incision near the chin. So soon as the bleeding entirely ceased, the flaps were brought together, and kept in apposition by the twisted suture, and the hollow space between the lip and tongue filled with lint. There was but little blood lost during the operation. In about an hour, however, when reaction took place, there was some hæmorrhage, which was easily stopped by additional plugging with pressure. After six hours there was no oozing. An irritating cough required a full opiate. Next day, he was doing well, only great difficulty in swallowing. On the 15th there was a little hæmorrhage again from violent coughing. On the 17th, owing to some fœtor in the discharge, an attempt was made to remove the plugs of lint from the wound, which brought on hæmorrhage ; but it was readily controlled by plugging with lint soaked in the infusion of matico, and firm pressure. The plugs were not again interfered with for several days, when they were loosened by the discharge, and came away readily, and without further bleeding. The wound was now simply dressed with lint moistened in water. Cicatrization went on favourably ; but, till it was complete, there was great difficulty in swallowing, owing to great inability to move the tongue, by which the first act of deglutition is in most part performed, by throwing the food into the pharynx. There was at one time a good deal of inflammation and suppuration about the end of the maxilla, on the right side ; and in consequence of this there will be, although not to a great extent, some exfoliation of the bone. The cut end of the bone granulated and healed kindly on the opposite side. The flaps adhered by the first intention, with



the exception of a small portion at the chin, which healed by granulation. The patient was discharged on the 26th July, being fully recovered in every respect from the effects of the operation, with the exception of the slight exfoliation that will take place from the bone, and the wound being healed more than a week.

On reviewing this case, I cannot resist alluding to the facility with which I was enabled to secure the divided arteries; and, in planning the operation, I had great misgivings on this point, because I was afraid that, as vessels of considerable size, especially the sub-lingual branches of the lingual artery, must unavoidably be cut, there would be great difficulty in laying hold of them in the confined and hollow space in which they would be. This, however, was not the case, as they were tied with as much ease as if they had been on the face of a stump. The facility thus afforded me in tying the arteries was owing, I am confident, to the removal of the front of the maxilla; and from this the idea is suggested to my mind, that in cases of urgency, requiring the removal, either by ligature or excision, of any portion of the tongue, or of the entire organ, the same procedure may be advantageously had recourse to, because by it, I think, perfect command is given over the vessels of the tongue in any operative proceeding.

Judging, then, from the ease which I experienced in tying the vessels in the floor of the mouth in the case under consideration, I think it is not unreasonable to infer that, if the front of the jaw is removed, the tongue itself, or any portion of it, may be removed, and the vessels tied with the same ease. The practicability, at least, of accomplishing this is so strongly impressed upon my mind, that, if the operation be undertaken, there will be, I think, but little risk of failure.

It may at first sight appear appalling to remove a portion of the jaw in order to operate on the tongue; but if, by so doing, operations can be performed on it with less hazard to life and greater certainty to stay the progress of a horrible and fatal disease, appalling as it may be, I think it becomes justifiable when its object is to accomplish an end so important and so desirable. The mere removal of a portion of the jaw involves no consequences of serious import to life. It may be done with great rapidity, and made a painless operation by means of chloroform.

I may remark, that in the case detailed I did not use chloroform,—the use of it in operations of the mouth being a vexed question. No blood, however, was swallowed; and I am satisfied that it might have been used, not only with impunity in this respect, but with much comfort to the patient, in annulling the suffering of so painful an operation.

Danger of hæmorrhage in excising cancerous tumours situated towards the root of the tongue, and even difficulty in surrounding them with ligatures, have ever been barriers to operative interference. To obviate the one and the other, operations on the tongue

have sometimes been performed through an incision from the symphysis to the os hyoides.

I shall quote from Chelius' Surgery this mode of operating, as laid down by Mr South, the accomplished editor and translator of that work, in order to compare it with that which I have suggested.

"As Cloquet had previously opened the bottom of the mouth for the introduction of a ligature, so Mirault<sup>1</sup> proceeded in a case, in which he had fruitlessly endeavoured to find the lingual artery on one side, although he had taken it up, with difficulty, on the other, after which the tumour diminished, but increased again. He made a cut from the chin to the tongue bone, directly in the space between the M. geniohyoidei, through which he pierced the tongue at the middle of its base, and surrounded the left half with a ligature, the ends of which hung down from the neck, and were there tied. Afterwards he tied the other half. If thus tied at two different times, the cancer may be cured without mortification of the tongue, which retains its shape and activity. According to Mirault, the cut into the bottom of the mouth is assisted, if the tongue be drawn well forward with a hook, and a needle curved sideways with a handle, like Desault's aneurysmal needle, be thrust through the middle line of the tongue from above, downwards, so that its point protrude below, at the part where the tie is to be made; the one end of the thread is now to be held fast, the needle with the other end drawn back, and then the threads tied."

"With Mirault's agrees the practice of Regnoli<sup>2</sup> for removal of the tongue. He made three cuts in the form of T from the lower edge of the point of the chin to the tongue bone, and on either side to the front edge of the M. masseter. The skin, cellular tissue, and M. platysma myoides were dissected off, a pointed straight bistoury thrust behind the chin from above downwards, the insertion of the M. geniohyoidei and genioglossi were cut through, and the mucous membrane of the mouth divided. With a button-ended bistoury, the insertions of the M. digastrici and mylohyoidei, and the mucous membrane of the mouth, were now cut through up to the pillars of the soft palate. After tying a few vessels, the tip of the tongue was seized with Museux's forceps, and drawn down to the lower opening, so that the whole tongue was seen on the front of the neck, and pulled well down with the fingers. Several ligatures were now applied with a long curved needle around the root of the tongue; the tongue cut off with a small pair of shears in front of the ligature; its stump returned into the cavity of the mouth, and the wound closed. Ice was put into the mouth to keep down the inflammation."

Mr Arnott<sup>3</sup> has also performed this operation successfully for a malignant tumour of the tongue of a girl of fifteen.

<sup>1</sup> *Gazette Médicale de Paris*, vol. ii., p. 507, 1834, August, No. 32.

<sup>2</sup> *Bulletins delle Scienze Medecche*, Jan. 1839, No. 181.

<sup>3</sup> *Med. Chir. Trans.*, vol. xxii., 1839.



The plan of operating adopted here is, so far as I can judge, one of great difficulty in execution, and not unattended with hazard even in its performance; for, if the incisions are made to the pillars of the palatine arch, vessels must be cut which cannot easily be secured; and besides, the fact that, when the tongue is brought through the opening, it cannot be sufficiently under control to admit of excision and of ligature of the arteries; otherwise the substance of the tongue would not have been included in ligatures, and then cut off anterior to them, as was done. It cannot therefore, I think, be considered a legitimate operation, although urgency might lead to it if a better were not known.

If, then, by removal of the front of the jaw, such command of the tongue can be given to the surgeon as to enable him to operate on it with safety either by excision or ligature, I can see no reason why such a mode of procedure should not be generally adopted. It might probably be, in the meantime, unbecoming in me to be more decided as to the practicability of tying the arteries in operating on the tongue in the manner which I have pointed out, because no absolute or incontrovertible opinion can be given till it is tested on the living body. As yet, it only rests on inferential evidence on my part, formed from the facility of tying the arteries in Bowie's case, and since then, from performing and studying the operation on the dead body.

I find that, by mere division of the jaw at the symphysis, the cut ends of the bone may be separated very freely, at least three inches, which gives, no doubt, great command over the tongue; but there can be no doubt but that the removal of the front of the jaw will give much greater.

ELGIN, *August 2, 1858.*

